SEQUENCE LISTING

<110> Readhead, Carol W.
Winston, Robert
Koeffler, H. Phillip
Muller, Carsten

<120> Transfection, Storage and Transfer of
Male Germ Cells for Generation of Transgenic Stem Cells

<130> P07 41795 (80334)

<140> US 09/292,723
<141> 1999-04-15

<150> US 09/272,443
<151> 1999-03-19

<150> US 09/191,920
<151> 1998-11-13

<150> US 60/065,825
<151> 1997-11-14

<150> PCT/US98/24238
<151> 1998-11-13

<160> 36

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 1958
<212> DNA
<213> Homo sapiens

<400> 1
tcgatctgat ttagagattt agggatggat gttttaaaaa aagcaaaagt agtaacagac 60
tatagcattg gtaatgtgtg tgtgcatata tacatattat ttttaaaaaa ataaagttcg 120
attatttcac ctggcttgtc agtcacctat gcaggcgtct gagcccccgg gtttccagga 180
gccccccgta taaggacccc agggactcct ctccccacgc ggccgggccg cccgcccggc 240
ccccagcccg gagagctgcc accgaccccc tcaacgtccc aagccccagc tctgtcgccc 300
gcgttccttc ctcttcctgg gccacaatct tggctttccc gggccggctt cacgcagttg 360
cgcaggagcc cgcgggggaa gacctctcgt ggggacctcg agcacgacgt gcgaccctaa 420
atccccacat ctcctctgcc gcctcgcagg ccacatgcac cgggagccgg gcggggcagg 480
cgcggcccgc aaggaccccc gcgatggaga cgcaacactg ccgcgactgc acttggggca 540
gccccgccgc gtcccagccg cctcccggca ggaagcgtag gtgtgtgagc cgacccggag 600
cgagccgcgc cctcgggcca gcgtgggcag ggcgccgcag cctgcgcagc cccgaggacc 660
ccgcgtcgct ctcccgagcc agggttctca ggagcgggcc gcgcaggaga cgttagaggg 720
ggttgttagc ggctgttggg agaacgggtc acggaaacag tcccttccaa agccggggcc 780
atcgtggggt gggcgagtcc gccctcccag gccgggggcg cggaccagag gggacgtgtg 840
cagacggccg cggtcagccc cacctcgccc gggcggagac gcacagctgg agctggaggg 900
ccgtcgcccg ttgggccctc aggggcctga acgcccaggg gtcgcggcga gtccacccgg 960

agcgagtcag gtgagcaggt cgccatggcg atgcggcccc ggagagcgca cgcctgccgc 1020
ggtcggcatg gaaacgctcc cgctaggtcc gggggcgccg ctgattggcc gattcaacag 1080
acgcgggtgg gcagctcagc cgcatcgcta agcccggccg cctcccaggc tggaatccct 1140
cgacacttgg tccttcccgc cccgcccttc cgtgccctgc ccttccctgc ccttccccgc 1200
cctgccccgc ccggcccggc ccggccctgc ccaaccctgc cccgccctgc cccgcccagc 1260
cggccacctc ttaaccgcga tcctccagtg cacttgccag ttgttccgga cacatagaaa 1320
gataacgacg ggaagacggg gccccgtttg gggtccaggc aggttttggg gcctcctgtc 1380
tggtgggagg aggccgcagc gcagcaccct gctcgtcact tgggatggag accggctttc 1440
ccgcaatcat gtaccctgga tcttttattg ggggctgggg agaagagtat ctcagctggg 1500
aaggaccggg gctcccagat ttcgtcttcc aggtaacgtg ggtttagtat cccgacttgg 1560
aggcttgtca gaatgtttct ctccttccag cccaacacga agtcttggga taaaaagcct 1620
ccctcaggga ttcaaataac tgttttgatt cagagcaact ttgatcgcct gtgcggtcgc 1680
acctgccctt tcagccccaa taattactgg gaagatcagc aattggtgtt agtcccattg 1740
cttggtgctc tccctcctag aggttcgctg tgtccttgga gcccggggtg gacggaatcg 1800
actaaacagc ttgtctgttt ctctttccct ggtagcagca gcccgtggag tctgaagcaa 1860
tgcactgcag caaccccaag agtggagttg tgctggctac agtggcccga ggtcccgatg 1920
cttgtcagat actcaccaga gccccgctgg gccaggat 1958

<210> 2
<211> 1442
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(1442)

<221> mutation
<222> (1427)...(1427)

<400> 2
tcgatctgat ttagagattt agggatggat gttttaaaaa aagcaaaagt agtaacagac 60
tatagcattg gtaatgtgtg tgtgcatata tacatattat ttttaaaaaa ataaagttcg 120
attatttcac ctggcttgtc agtcacctat gcaggcgtct gagcccccgg gtttccagga 180
gccccccgta taaggacccc agggactcct ctccccacgc ggccgggccg cccgcccggc 240
ccccagcccg gagagctgcc accgaccccc tcaacgtccc aagccccagc tctgtcgccc 300
gcgttccttc ctcttcctgg gccacaatct tggctttccc gggccggctt cacgcagttg 360
cgcaggagcc cgcgggggaa gacctctcgt ggggacctcg agcacgacgt gcgaccctaa 420
atccccacat ctcctctgcc gcctcgcagg ccacatgcac cgggagccgg gcggggcagg 480
cgcggcccgc aaggaccccc gcgatggaga cgcaacactg ccgcgactgc acttggggca 540
gccccgccgc gtcccagccg cctcccggca ggaagcgtag gtgtgtgagc cgacccggag 600
cgagccgcgc cctcgggcca gcgtgggcag ggcgccgcag cctgcgcagc cccgaggacc 660
ccgcgtcgct ctcccgagcc agggttctca ggagcgggcc gcgcaggaga cgttagaggg 720
ggttgttagc ggctgttggg agaacgggtc acggaaacag tcccttccaa agccggggcc 780
atcgtggggt gggcgagtcc gccctcccag gccgggggcg cggaccagag gggacgtgtg 840
cagacggccg cggtcagccc cacctcgccc gggcggagac gcacagctgg agctggaggg 900
ccgtcgcccg ttgggccctc aggggcctga acgcccaggg gtcgcggcga gtccacccgg 960
agcgagtcag gtgagcaggt cgccatggcg atgcggcccc ggagagcgca cgcctgccgc 1020
ggtcggcatg gaaacgctcc cgctaggtcc gggggcgccg ctgattggcc gattcaacag 1080
acgcgggtgg gcagctcagc cgcatcgcta agcccggccg cctcccaggc tggaatccct 1140
cgacacttgg tccttcccgc cccgcccttc cgtgccctgc ccttccctgc ccttccccgc 1200
cctgccccgc ccggcccggc ccggccctgc ccaaccctgc cccgccctgc cccgcccagc 1260
cggccacctc ttaaccgcga tcctccagtg cacttgccag ttgttccgga cacatagaaa 1320
gataacgacg ggaagacggg gccccgtttg gggtccaggc aggttttggg gcctcctgtc 1380
tggtgggagg aggccgcagc gcagcaccct gctcgtcact tgggattgag accggctttc 1440

cc 1442

<210> 3
<211> 1294
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(1294)

<221> mutation
<222> (1279)...(1279)

<400> 3
atgcaggcgt ctgagccccc gggtttccag gagccccccg tataaggacc ccagggactc 60
ctctccccac gcggccgggc cgcccgcccg gcccccagcc cggagagctg ccaccgaccc 120
cctcaacgtc ccaagcccca gctctgtcgc ccgcgttcct tcctcttcct gggccacaat 180
cttggctttc ccgggccggc ttcacgcagt tgcgcaggag cccgcggggg aagacctctc 240
gtggggacct cgagcacgac gtgcgaccct aaatccccac atctcctctg ccgcctcgca 300
ggccacatgc accgggagcc gggcggggca ggcgcggccc gcaaggaccc ccgcgatgga 360
gacgcaacac tgccgcgact gcacttgggg cagccccgcc gcgtcccagc cgcctcccgg 420
caggaagcgt aggtgtgtga gccgacccgg agcgagccgc gccctcgggc cagcgtgggc 480
agggcgccgc agcctgcgca gccccgagga ccccgcgtcg ctctcccgag ccagggttct 540
caggagcggg ccgcgcagga gacgttagag ggggttgtta gcggctgttg ggagaacggg 600
tcacggaaac agtcccttcc aaagccgggg ccatcgtggg gtgggcgagt ccgccctccc 660
aggccggggg cgcggaccag aggggacgtg tgcagacggc cgcggtcagc cccacctcgc 720
ccgggcggag acgcacagct ggagctggag ggccgtcgcc cgttgggccc tcaggggcct 780
gaacgcccag gggtcgcggc gagtccaccc ggagcgagtc aggtgagcag gtcgccatgg 840
cgatgcggcc ccggagagcg cacgcctgcc gcggtcggca tggaaacgct cccgctaggt 900
ccgggggcgc cgctgattgg ccgattcaac agacgcgggt gggcagctca gccgcatcgc 960
taagcccggc cgcctcccag gctggaatcc ctcgacactt ggtccttccc gccccgccct 1020
tccgtgccct gcccttccct gcccttcccc gccctgcccc gcccggcccg gcccggccct 1080
gcccaaccct gccccgccct gccccgccca gccggccacc tcttaaccgc gatcctccag 1140
tgcacttgcc agttgttccg gacacataga aagataacga cgggaagacg gggccccgtt 1200
tggggtccag gcaggttttg gggcctcctg tctggtggga ggaggccgca gcgcagcacc 1260
ctgctcgtca cttgggattg agaccggctt tccc 1294

<210> 4
<211> 597
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(597)

<221> mutation
<222> (582)...(582)

<400> 4
ggccgcggtc agccccacct cgcccgggcg gagacgcaca gctggagctg gagggccgtc 60
gcccgttggg ccctcagggg cctgaacgcc caggggtcgc ggcgagtcca cccggagcga 120
gtcaggtgag caggtcgcca tggcgatgcg gccccggaga gcgcacgcct gccgcggtcg 180
gcatggaaac gctcccgcta ggtccggggg cgccgctgat tggccgattc aacagacgcg 240

ggtgggcagc tcagccgcat cgctaagccc ggccgcctcc caggctggaa tccctcgaca 300
cttggtcctt cccgccccgc ccttccgtgc cctgcccttc cctgcccttc cccgccctgc 360
cccgccccggc ccggcccggc cctgcccaac cctgccccgc cctgccccgc ccagccggcc 420
acctcttaac cgcgatcctc cagtgcactt gccagttgtt ccggacacat agaaagataa 480
cgacgggaag acggggcccc gtttggggtc caggcaggtt ttggggcctc ctgtctggtg 540
ggaggaggcc gcagcgcagc accctgctcg tcacttggga ttgagaccgg ctttccc 597

<210> 5
<211> 469
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(469)

<221> mutation
<222> (454)...(454)

<400> 5
agcaggtcgc catggcgatg cggccccgga gagcgcacgc ctgccgcggt cggcatggaa 60
acgctcccgc taggtccggg ggcgccgctg attggccgat tcaacagacg cgggtgggca 120
gctcagccgc atcgctaagc ccggccgcct cccaggctgg aatccctcga cacttggtcc 180
ttcccgcccc gcccttccgt gccctgccct tccctgccct tccccgccct gccccgcccg 240
gcccggcccg gccctgccca accctgcccc gccctgcccc gcccagccgg ccacctctta 300
accgcgatcc tccagtgcac ttgccagttg ttccggacac atagaaagat aacgacggga 360
agacggggcc ccgtttgggg tccaggcagg ttttggggcc tcctgtctgg tgggaggagg 420
ccgcagcgca gcaccctgct cgtcacttgg gattgagacc ggctttccc 469

<210> 6
<211> 333
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(333)

<221> mutation
<222> (318)...(318)

<400> 6
aagcccggcc gcctcccagg ctggaatccc tcgacacttg gtccttcccg ccccgccctt 60
ccgtgccctg cccttccctg cccttccccg ccctgccccg cccggcccgg cccggccctg 120
cccaaccctg ccccgccctg ccccgcccag ccggccacct cttaaccgcg atcctccagt 180
gcacttgcca gttgttccgg acacatagaa agataacgac gggaagacgg ggccccgttt 240
ggggtccagg caggttttgg ggcctcctgt ctggtgggag gaggccgcag cgcagcaccc 300
tgctcgtcac ttgggattga gaccggcttt ccc 333

<210> 7
<211> 303
<212> DNA
<213> Homo sapiens

<220>

<221> promoter
<222> (1)...(303)

<221> mutation
<222> (288)...(288)

<400> 7
tcgacacttg gtccttcccg ccccgccctt ccgtgccctg cccttccctg cccttccccg 60
ccctgccccg cccggcccgg cccggccctg cccaaccctg ccccgccctg ccccgcccag 120
ccggccacct cttaaccgcg atcctccagt gcacttgcca gttgttccgg acacatagaa 180
agataacgac gggaagacgg ggccccgttt ggggtccagg caggttttgg ggcctcctgt 240
ctggtgggag gaggccgcag cgcagcaccc tgctcgtcac ttgggattga gaccggcttt 300
ccc 303

<210> 8
<211> 263
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(263)

<221> mutation
<222> (248)...(248)

<400> 8
cccttccctg cccttccccg ccctgccccg cccggcccgg cccggccctg cccaaccctg 60
ccccgccctg ccccgcccag ccggccacct cttaaccgcg atcctccagt gcacttgcca 120
gttgttccgg acacatagaa agataacgac gggaagacgg ggccccgttt ggggtccagg 180
caggttttgg ggcctcctgt ctggtgggag gaggccgcag cgcagcaccc tgctcgtcac 240
ttgggattga gaccggcttt ccc 263

<210> 9
<211> 255
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(255)

<221> mutation
<222> (240)...(240)

<400> 9
tgcccttccc cgccctgccc cgcccggccc ggcccggccc tgcccaaccc tgccccgccc 60
tgccccgccc agccggccac ctcttaaccg cgatcctcca gtgcacttgc cagttgttcc 120
ggacacatag aaagataacg acgggaagac ggggccccgt ttggggtcca ggcaggtttt 180
ggggcctcct gtctggtggg aggaggccgc agcgcagcac cctgctcgtc acttgggatt 240
gagaccggct ttccc 255

<210> 10
<211> 209
<212> DNA

<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(209)

<400> 10
aagcccggcc gcctcccagg ctggaatccc tcgacacttg gtccttcccg ccccgccctt 60
ccgtgccctg cccttccctg cccttccccg ccctgccccg cccggcccgg cccggccctg 120
cccaaccctg ccccgccctg ccccgcccag ccggccacct cttaaccgcg atcctccagt 180
gcacttgcca gttgttccgg acacataga 209

<210> 11
<211> 202
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(202)

<400> 11
aagcccggcc gcctcccagg ctggaatccc tcgacacttg gtccttcccg ccccgccctt 60
ccgtgccctg cccttccctg cccttccccg ccctgccccg cccggcccgg cccggccctg 120
cccaaccctg ccccgccctg ccccgcccag ccggccacct cttaaccgcg atcctccagt 180
gcacttgcca gttgttccgg ac 202

<210> 12
<211> 195
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(195)

<400> 12
aagcccggcc gcctcccagg ctggaatccc tcgacacttg gtccttcccg ccccgccctt 60
ccgtgccctg cccttccctg cccttccccg ccctgccccg cccggcccgg cccggccctg 120
cccaaccctg ccccgccctg ccccgcccag ccggccacct cttaaccgcg atcctccagt 180
gcacttgcca gttgt 195

<210> 13
<211> 194
<212> DNA
<213> Homo sapiens

<220>
<221> promoter
<222> (1)...(194)

<400> 13
aagcccggcc gcctcccagg ctggaatccc tcgacacttg gtccttcccg ccccgccctt 60
ccgtgccctg cccttccctg cccttccccg ccctgccccg cccggcccgg cccggccctg 120
cccaaccctg ccccgccctg ccccgcccag ccggccacct cttaaccgcg atcctccagt 180

gcacttgcca gttg 194

<210> 14
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide primer sequence

<400> 14
ccctctcaga acagacatac a 21

<210> 15
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide primer sequence

<400> 15
ctgatccaga ataacacctg a 21

<210> 16
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> n equals inosine; Universal 5' RACE abridged
anchor primer

<400> 16
ggccacgcgt cgactagtac gggnngggnn gggnng 36

<210> 17
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide primer sequence

<400> 17
ctcctcccac cagacagga 19

<210> 18
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Double-stranded oligonucleotide

<400> 18
cctgccccgc cctgccccgc ccagcc 26

<210> 19
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Double-stranded oligonucleotide

<400> 19
ccttccccgc cctgccccgc ccggccc 27

<210> 20
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Double-stranded oligonucleotide

<400> 20
attcgatcgg ggcggggcga gc 22

<210> 21
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Double-stranded oligonucleotide

<400> 21
gagaccggct cgaacgcaat catgt 25

<210> 22
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide

<400> 22
aatcgataag aattcgtcga ccga 24

<210> 23
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide

<400> 23
ccccgccctg ccccttacag ccggccacc 29

<210> 24
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide

<400> 24
ccccgccctg ccccttacag ccggccacc 29

<210> 25
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide

<400> 25
ccctgcccct tccggcccgg cc 22

<210> 26
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide

<400> 26
ctgcccttcc cttccctgcc cc 22

<210> 27
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide

<400> 27
gcccaaccct gcccttacct gcccccttaca gccggccacc tc 42

<210> 28
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide

<400> 28
cttccctgcc cttcccttac ctgcccctta cggcccggcc cggcc 45

<210> 29
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Single-stranded oligonucleotide

<400> 29
ccacctctta acaagcttcc tccagtgca 29

<210> 30
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> EGFP-specific single-stranded oligonucleotide

<400> 30
ttgtcgggca gcagcacggg gccg 24

<210> 31
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> EGFP-specific single-stranded oligonucleotide

<400> 31
tcaccggggt ggtgccatcc tttg 24

<210> 32
<211> 6
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (0)...(0)

<400> 32
tcgcgg 6

<210> 33
<211> 6
<212> DNA
<213> Homo sapiens

<220>
<223> Cyclin A1 initiator region (Inr) sequence

<400> 33
ccagtt 6

<210> 34
<211> 6
<212> DNA
<213> Homo sapiens

<220>
<223> Consensus initiator region (Inr) sequence

<400> 34
tcakty 6

<210> 35
<211> 80
<212> DNA
<213> Homo sapiens

<220>
<223> Cyclin A1 promoter region nucleotide positions -70
to +10

<400> 35
cccaaccctg ccccgccctg ccccgcccca gccggccacc tcttaaccgc gatcctccag 60
tgcacttgcc agttgttccg 80

<210> 36
<211> 1450
<212> DNA
<213> Homo sapiens

<220>
<223> Cyclin A1 promoter region nucleotide positions
-1299 to +152

<400> 36
tcgatctgat ttagagattt agggatggat gttttaaaaa aagcaaaagt agtaacagac 60
tatagcattg gtaatgtgtg tgtgcatata tacatattat ttttaaaaaa ataaagttcg 120
attatttcac ctggcttgtc agtcacctat gcaggcgtct gagcccccgg gtttccagga 180
gccccccgta taaggacccc agggactcct ctccccacgc ggccgggccg cccgcccggc 240
ccccagcccg gagagctgcc accgaccccc tcaacgtccc aagccccagc tctgtcgccc 300
gcgttccttc ctcttcctgg gccacaatct tggctttccc gggccggctt cacgcagttg 360
cgcaggagcc cgcgggggaa gacctctcgt ggggacctcg agcacgacgt gcgaccctaa 420
atccccacat ctcctctgcc gcctcgcagg ccacatgcac cgggagccgg gcggggcagg 480
cgcggcccgc aaggaccccc gcgatggaga cgcaacactg ccgcgactgc acttggggca 540
gccccgccgc gtcccagccg cctcccggca ggaagcgtag gtgtgtgagc cgacccggag 600
cgagccgcgc cctcgggcca gcgtgggcag ggcgccgcag cctgcgcagc cccgaggacc 660
ccgcgtcgct ctcccgagcc agggttctca ggagcgggcc gcgcaggaga cgttagaggg 720
ggttgttagc ggctgttggg agaacgggtc acggaaacag tcccttccaa agccggggcc 780
atcgtggggt gggcgagtcc gccctcccag gccgggggcg cggaccagag gggacgtgtg 840
cagacggccg cggtcagccc cacctcgccc gggcggagac gcacagctgg agctggaggg 900
ccgtcgcccg ttgggccctc aggggcctga acgcccaggg gtcgcggcga gtccacccgg 960
agcgagtcag gtgagcaggt cgccatggcg atgcggcccc ggagagcgca cgcctgccgc 1020

```
ggtcggcatg gaaacgctcc cgctaggtcc gggggcgccg ctgattggcc gattcaacag 1080
acgcgggtgg gcagctcagc cgcatcgcta agcccggccg cctcccaggc tggaatccct 1140
cgacacttgg tccttcccgc cccgcccttc cgtgccctgc ccttccctgc ccttccccgc 1200
cctgccccgc ccggcccggc ccggccctgc ccaaccctgc cccgccctgc cccgcccagc 1260
cggccacctc ttaaccgcga tcctccagtg cacttgccag ttgttccgga cacatagaaa 1320
gataacgacg ggaagacggg gccccgtttg gggtccaggc aggttttggg gcctcctgtc 1380
tggtgggagg aggccgcagc gcagcaccct gctcgtcact tgggatggag accggctttc 1440
ccgcaatcat                                                       1450
```